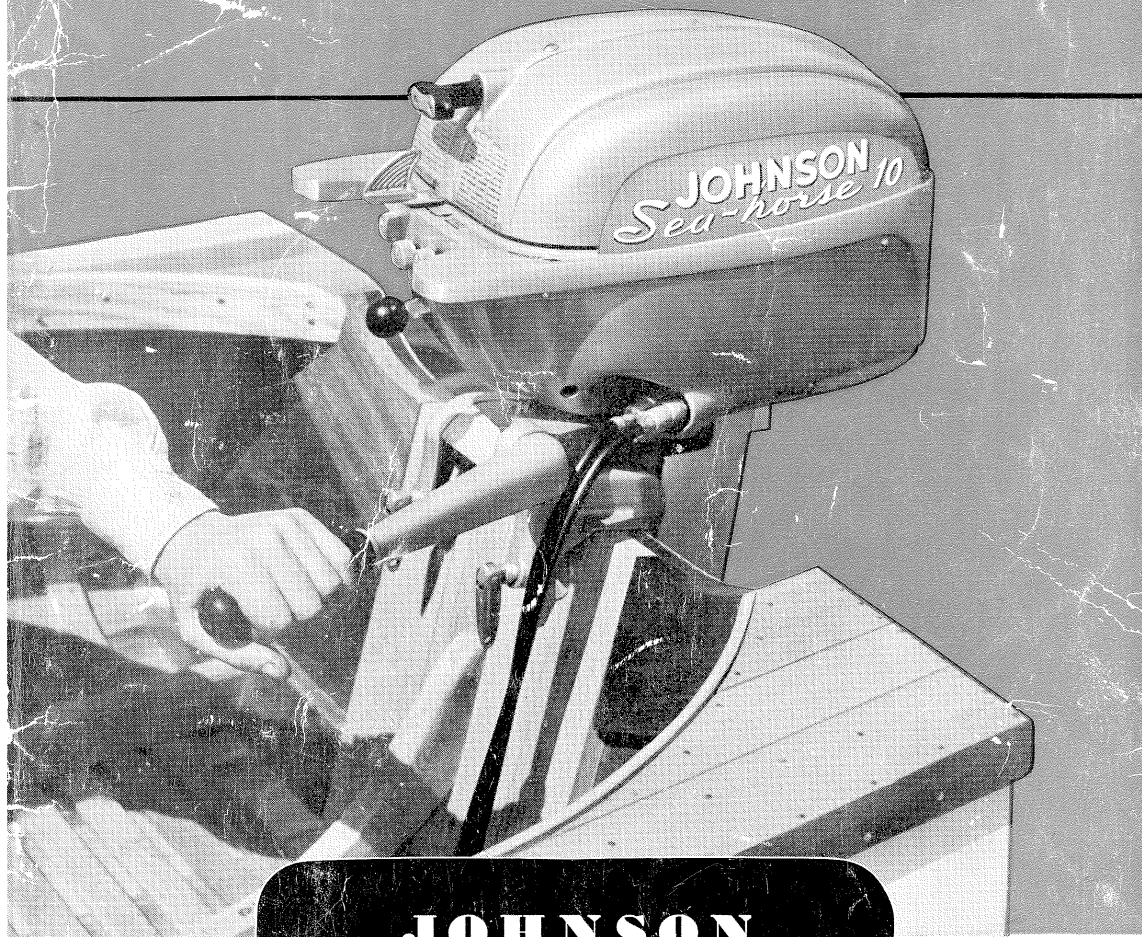
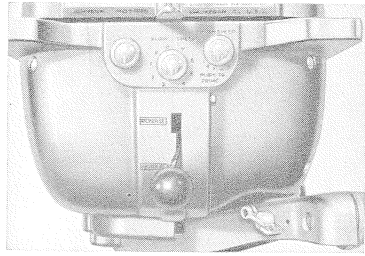


Operating Instructions



JOHNSON
Sea-Horse 10
(MODEL QD)

JOHNSON MOTORS • WAUKEGAN, ILLINOIS • U.S.A.



introduction

Your new Johnson Sea Horse 10 is designed and constructed to give you the maximum in service and performance for a motor of its size—take full advantage of the qualities built into it by understanding the details of its operation.

You should *study* this Instruction Book—not just read it or glance through it. When you have done so, then take a little extra time to gradually become familiar with the controls. Practice until their operation becomes an instinctive habit. Then you won't find yourself sometime “doing the wrong thing at the right time” and vice versa.

The Johnson Model QD motor is powerful and fast, yet power and speed have not been stressed at the sacrifice of other necessary characteristics such as “hats-off” acceleration and slow, consistent trolling speed.

If you will take good care of your Johnson motor, rest assured it will take good care of you.

JOHNSON MOTORS

fuel mixture

lubrication

Since fuel vapors are first compressed in the crankcase of the engine, the most practical method of lubrication is by mixing the lubricating oil with the gasoline. Lubrication is obtained as the mixture of oil and gasoline enters the crankcase and is later transferred to the cylinders. Oil being less volatile than gasoline, a larger portion of the fuel-oil mixture remains in the crankcase to



lubricate the bearings and other moving parts. The remainder enters the cylinder with the pre-compressed charge to aid in the lubrication of piston and piston rings.

Oil • JOHNSON recommends the use of MOBIL OIL AF, an SAE No. 40 automotive engine oil which is widely available. Where this oil is not readily available, use MOBIL OIL Marine No. 4 or any other first-quality automotive engine oil of SAE No. 40 grade which does not contain harmful or excessive detergent additives.

NOTE: Many first-quality automotive engine oils contain detergent additives which are beneficial in minimizing ring-sticking and the formation of varnish deposits on pistons. These detergents may, under some conditions, when used in two-cycle (outboard) engines, deposit excessive ash on the spark plugs causing missing or failure to fire the charge. **These deposits are not otherwise harmful to outboard engines;** and the detergent additives are beneficial in proper amounts and of suitable character.

2

Where the recommended MOBIL OIL is not readily available, other oils may be used, in which case use non-detergent oils.

When changing from one oil to another because of spark plug trouble caused by deposits, it is necessary to thoroughly clean the combustion chambers, ports, and pistons and rings, as otherwise the old deposits may continue to cause spark plug difficulty.

Gasoline • Select a gasoline with minimum lead content. If lead content is in excess of 1 cc per gallon, spark plug difficulty may be expected. It is hardly possible for the motor owner to know the lead content of gasoline but premium grades, such as "Ethyl" gasoline should be avoided. In the event of excessive spark plug difficulty, try changing to another brand of gasoline. Use "white" or "marine" gasoline if it is available. Since octane rating of the gasoline is not important, low octane gasolines are satisfactory. No generally distributed type of gasoline or oil will cause permanent damage to your motor.

CAUTION: Benzol, which is sometimes used to blend with gasoline, is harmful to the motor —avoid use of such fuel.



mixing of oil and gasoline

Amount • Mix 1/2 pint of oil (as above specified) to each gallon of gasoline.

Procedure • Pour into the fuel tank approximately one-half the amount of gasoline required. Add all the oil required (at the ratio of 1/2 pint of oil to each gallon of gasoline). Shake the two together until they are thoroughly mixed. Add the balance of gasoline. Shake tank briskly to insure mixing.

NOTE: Tank capacity is approximately 6 gallons, sufficient to readily accommodate 5 gallons of gasoline plus the necessary oil. Always use fresh gas and oil mixture.

3

installation on boat

boat dimensions

Transom standards adopted by the boat building industry (through the OBC) are shown in Fig. 2. To insure maximum

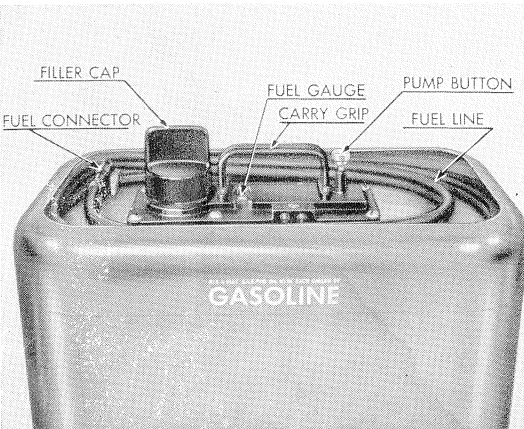


Figure 1

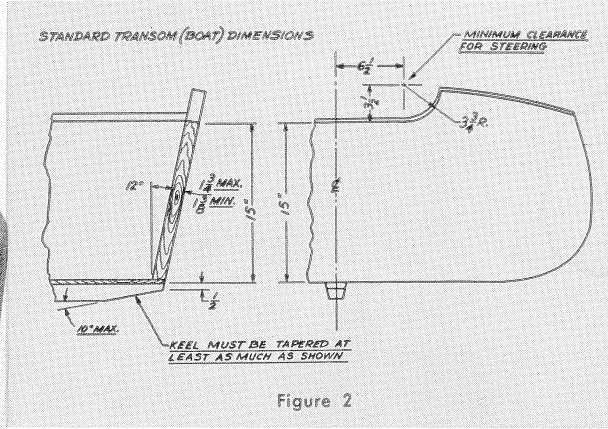
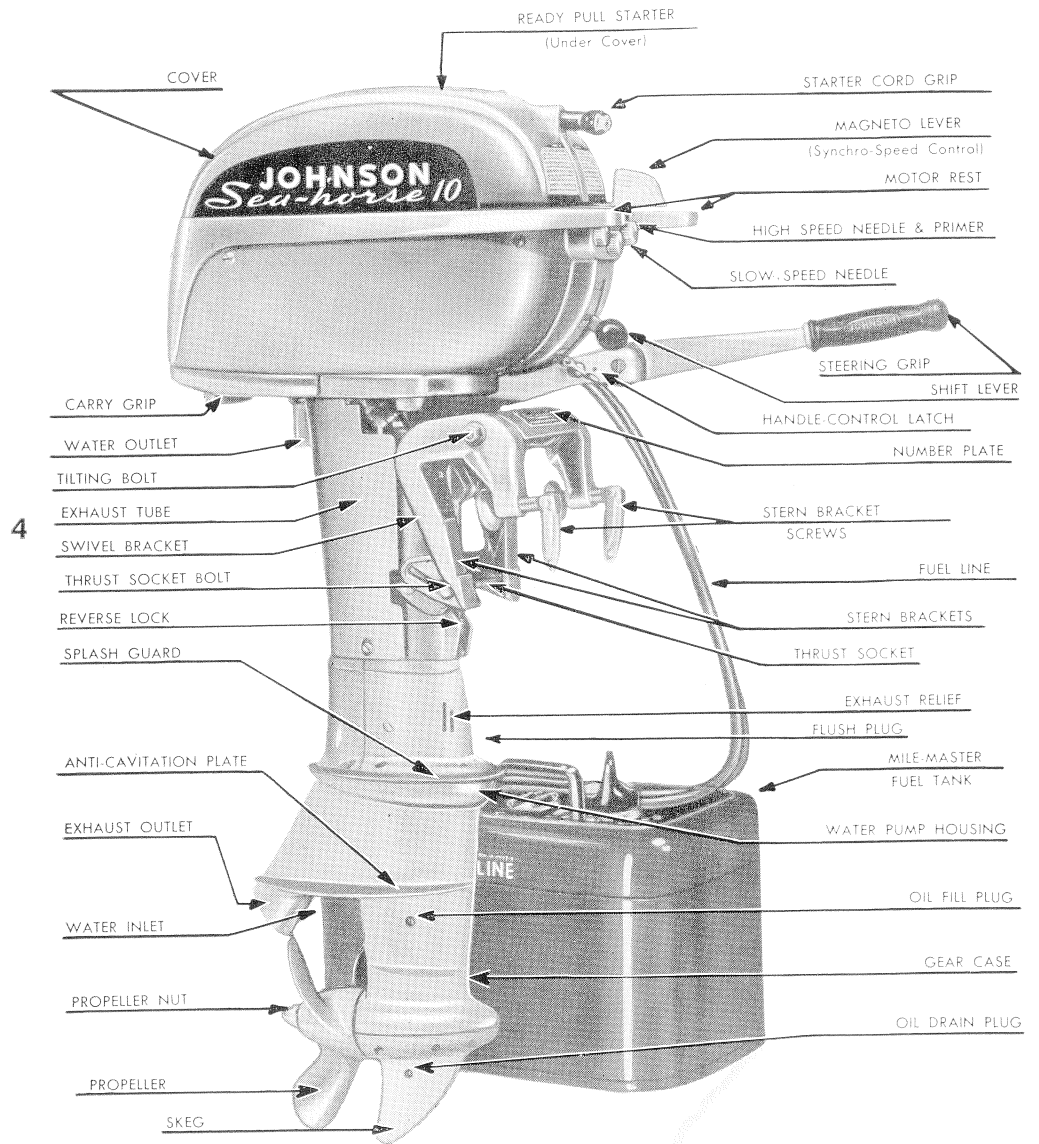


Figure 2



J O H N S O N M O D E L Q D



model QD



specification chart

| | |
|---|---|
| POWER HEAD | Two cycle—Alternate Firing 2 Port—Automatic Intake |
| Bore and Stroke | 2 3/8" x 1 7/8" |
| No. of Cylinders | 2 |
| O.B.C. Certified Brake H.P. at 4000 R.P.M. | 10.0 |
| Piston Displacement | 16.6 Cu. In. |
| Weight | QD—58 lb. * QDL—59 1/2 lb. * |
| Propeller Dia. Pitch | 9" x 8" 3 Blade |
| Fuel Tank Capacity | 5 Gal. |
| Starting | Ready Pull |
| Ignition | Magneto—Johnson |
| Make Carburetor | Johnson |
| Gear Ratio | 12-21 |
| Type of Exhaust | Underwater |
| Cooling System | Vari-Volume Water Pump |
| Steering | Pivot |
| Gear Shift Control | Neutral, Forward, Reverse |
| Stern Height (Max.) | QD 15" QDL 20" |

5

* Basic weight without Mile-Master Fuel Tank which weighs 16 pounds.



performance, transom should be of correct height. Recommended transom (stern) vertical height for Model QD is 15 inches.

If the transom is too high, "cavitation" will result to interfere with ultimate performance of the motor. This condition can be corrected by cutting the transom (stern) down to the proper height.

Interference from the keel is frequently the cause of propeller cavitation. It is advisable to taper the keel at the transom (stern) as illustrated (Fig. 2).

6 In event the transom is too low, parts of the motor lower unit may drag in the water, causing a "rooster tail" to form behind the boat to affect overall performance. This will result in some loss of speed and under extreme conditions, water may be caused to spray up against the bottom side of the motor. A condition of this nature is difficult to correct, as it is not practical to build up the transom in excess of $\frac{1}{4}$ " to $\frac{1}{2}$ ". The resulting built up section is rarely of sufficient strength to carry the motor load.

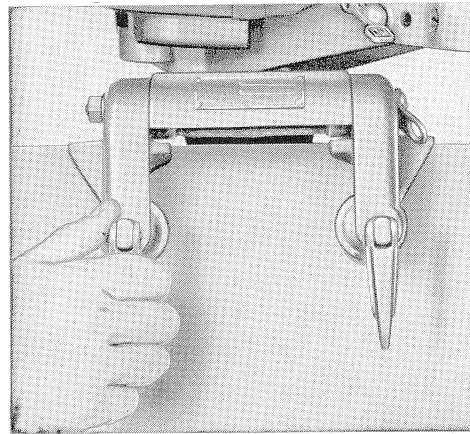


Figure 3

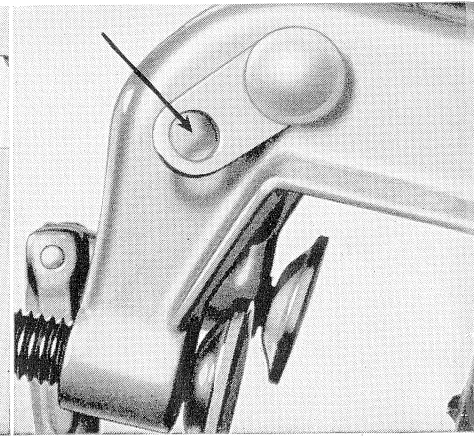


Figure 4



securing motor to the boat

Tighten clamp screws *immediately* on placing the motor in position on transom of the boat to avoid possibility of loss overboard when starting and operating. Check periodically during operation of the motor to make certain the screws have not worked loose (Fig. 3). Pay heed to this simple precaution.

precaution

Note that a link has been provided for attaching a short length of rope, cable or chain to the motor for the purpose of anchoring to the boat, thus guarding against loss overboard in event the stern bracket clamp screws work loose (Fig. 4). See your Johnson dealer for precautionary devices of this sort.

7

angle adjustment

A simple means for adjusting the motor in a vertical position to make allowance for angle of the transom on the boat is provided,

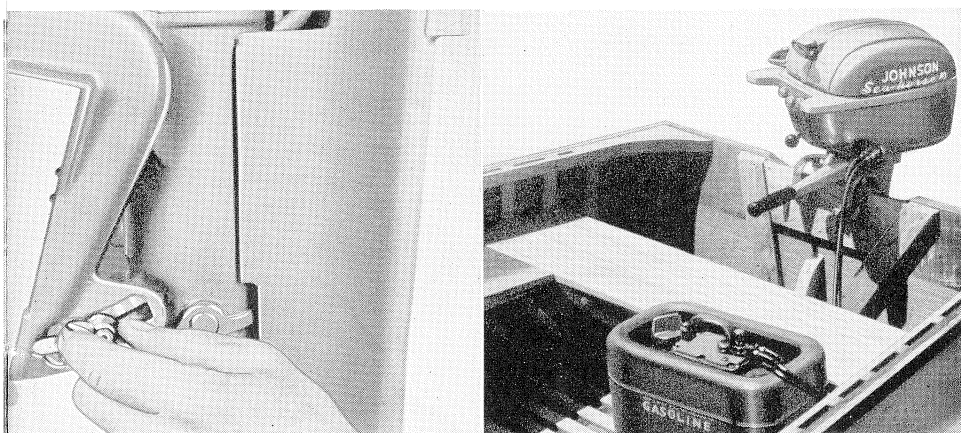


Figure 5

Figure 6



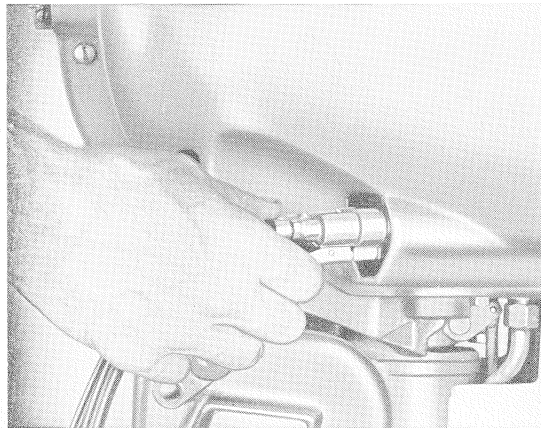


Figure 7

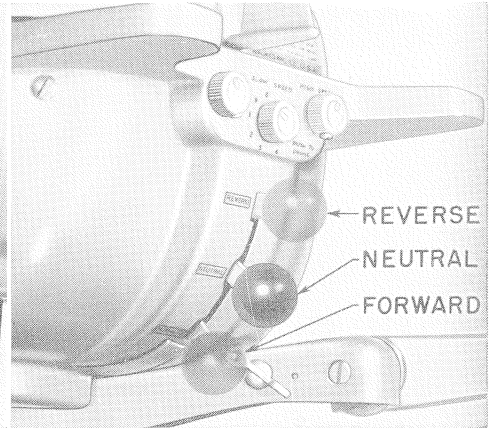


Figure 8

8 as shown (Fig. 5). Transom (stern) angles vary somewhat; however range of thrust socket adjustment is sufficient to accommodate angles usually encountered in most boats.

To accomplish this adjustment, (1) move shift lever to “reverse” position, (2) loosen wing nut on thrust socket bolt, (3) tilt motor to vertical position with respect to line of boat travel (boat lying level on water under normal loaded condition), (4) tighten wing nut. Make certain notches in adjusting slot are fully engaged (Fig. 5). To insure against possible loosening of the wing nut, it may be advisable to tighten slightly beyond finger pressure—use pliers, being careful not to damage by excessive tightening.

When beaching the boat, move shift lever to “forward” position—then tilt motor out of water.

connecting fuel supply

The fuel container (Mile-Master Tank) should be placed in the boat at a convenient position near the operator. The fuel line may be strung out along inside wall of the boat, allowing ample loop for steering as the motor is pivoted from side to side. The fuel line



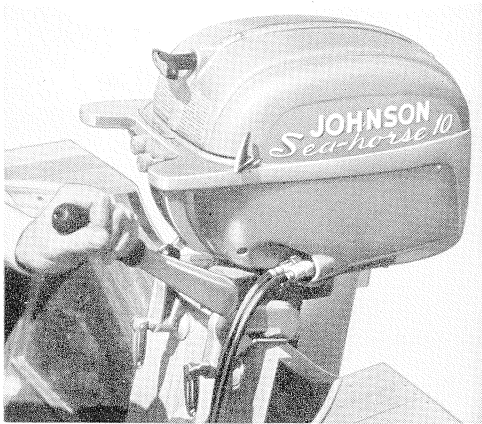


Figure 9

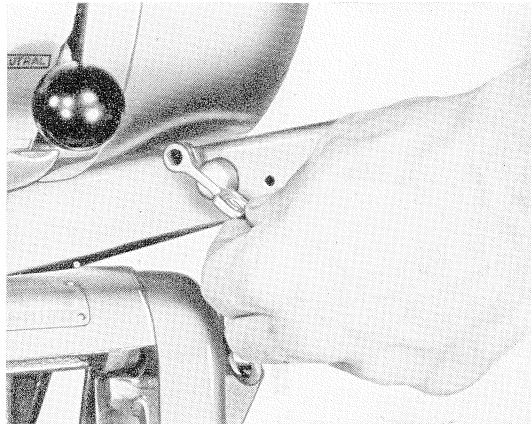


Figure 10

connector can then readily be attached to the coupling on the motor provided for this purpose—simply compress small lever on the fitting and slide into position as shown (Fig. 7).

9

operating instructions

forward operation

The shift lever can be moved into “forward” position regardless of control (speed) lever setting (Start, Slow, Fast, etc.) and while in this position, the motor functions in conventional manner.

neutral operation

The shift lever can be moved into “neutral” position only when the control (speed) lever is set within “neutral” range (indicated on the motor rest bracket). (Fig. 14.)

The control (speed) lever may be moved to any position with the gear shift lever in “neutral.” However, it is not recommended that the motor be operated beyond range indicated for “neutral” or “reverse.” It is possible, but not recommended, to shift into



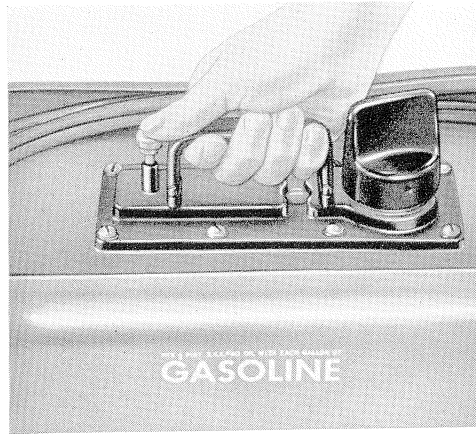


Figure 11

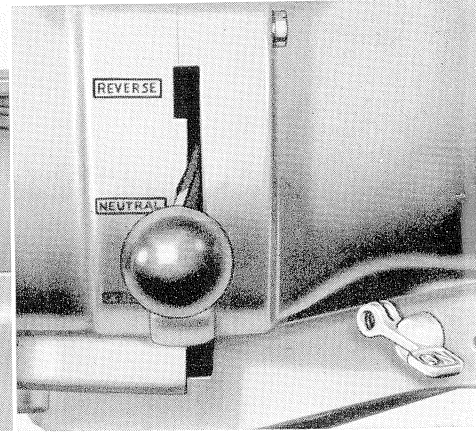


Figure 12

10

“forward” position with the control lever set beyond “neutral” or “reverse” range. The gear shift lever cannot be moved back into “neutral” once the control lever is moved beyond the “neutral-reverse” range.

The Control Lever Must Be Positioned Within the “Neutral-Reverse” Range Before Shifting Back to “Neutral.” Do Not Force.

reverse operation

The same speed restrictions apply to “reverse” as apply to “neutral” operation. The control (speed) lever must be set within “neutral-reverse” range prior to shifting into “reverse.”

Motor power and speed are automatically limited in reverse as a precaution against damaging the boat. The reversing feature is provided for maneuverability of the boat, though not efficient for pulling heavy loads.

Do Not Attempt to Force the Gear Shift Lever into “reverse” or “neutral.” Move control (speed) lever within “neutral-reverse”



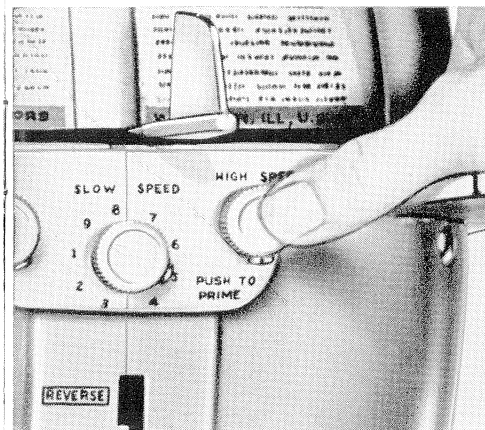


Figure 13

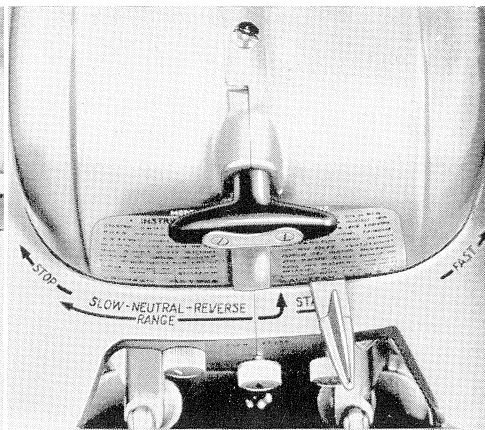


Figure 14

range, then shift to “neutral” or “reverse” with ease.

Occasions may arise when it is advisable to suddenly reduce motor speed at a moment’s notice. This can be accomplished by simply raising or tilting the steering handle up as shown here (Fig. 9)—providing the small lever on the steering handle bracket has been pre-set to position “ON” (Fig. 10).

In event control action is not desired, set lever to “OFF” position and operate in conventional manner.

The motor will be found to run rather sluggishly when operating at reduced speed, as result of tilting the steering handle. To overcome this condition, move control (speed) lever to left—“slow” range. Resume speed by returning steering handle to original horizontal position and advancing speed control lever to desired position.

In situations where speed reduction is but momentarily required, it is not necessary to alter position of the speed control lever—resume normal “fast” speed by merely returning the steering handle to horizontal position.



starting instructions

Since fuel is fed to the carburetor by means of pressure created within the crankcase of the motor and built up in the fuel tank, some arrangement is necessary to fill the carburetor on having attached the fuel line to the motor and prior to starting. This is accomplished by operation of a simple pump built into mechanism of the tank.

Fuel line connector is arranged to automatically close off gasoline supply when disconnected.

12

1. Depress pump button on the tank several times as shown (Fig. 11). Note that pressure required to operate the pump increases as the fuel line and carburetor fill up—*this is your signal to stop pumping*. Do not force the pump beyond this point. Excessive pressure may flood carburetor.

It is not necessary to operate the tank pump after having filled the carburetor—it is used only after having attached the fuel line. Fuel level is automatically maintained in the carburetor by pressure built up in the tank during operation of the motor.

2. Move gear shift lever to center or “neutral” position (Fig. 12).
3. Depress primer button (on carburetor panel) several times (Fig. 13).
4. Move control (speed) lever to “start” position (Fig. 14) (Spark and carburetor controls are synchronized).
5. Pull starter grip to start motor (Fig. 15).



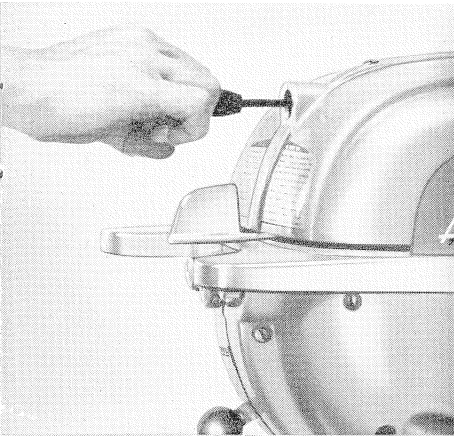


Figure 15

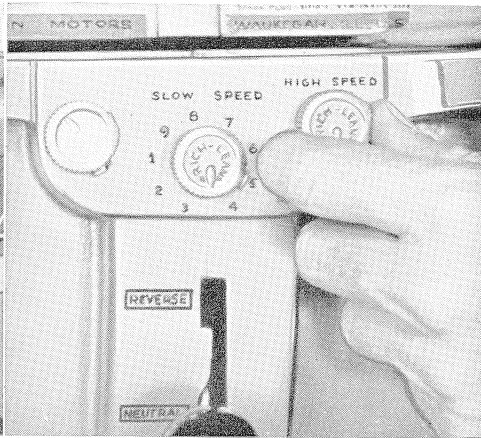


Figure 16

Do not release hold on starter grip until the starter has completely rewound itself.

6. Additional priming may be required momentarily when starting cold motor.

The motor may be run in the neutral position for an indefinite period at option of the operator, but will not operate smoothly unless the control lever is set within "slow" range.

7. Shift to forward or reverse as desired.
8. WHEN IN FORWARD ONLY, advance control (speed) lever to "fast" position. Run motor several seconds to warm up. Turn high speed needle knob to right or left as required to obtain maximum top speed performance. Speed range is automatically limited when in reverse (Fig. 16).
9. To retard motor speed, move control (speed) lever to left as desired.



10. To stop motor, move control (speed) lever to extreme left "stop" position to ground out ignition. Hold until motor stops running (Fig. 14).

carburetor adjustment

Since the carburetor is of the two jet (float feed) type, designed for maximum efficient carburetion throughout entire speed range of the motor, two adjustments are required, namely: high and slow speed.

high speed adjustment

14

Start motor as previously instructed, set shift lever to "forward" position and allow to run at top speed (move control lever to "fast" position) until normal operating temperature is reached. Turn "high speed" needle knob to right or left as required to obtain maximum performance (Fig. 16). This adjustment should be performed only with control (speed) lever set for top speed—position "fast" (spark at full advance and carburetor [throttle] at full open).

The high speed needle is initially adjusted at the factory but provisions are made for limited adjustment to compensate for variations apt to be encountered during normal operation of the motor. In event restricted range of adjustment is not sufficient to obtain proper high speed needle setting, proceed as follows:

Loosen screw holding small bell crank fast to the high speed needle—accessible under side cover (Fig. 17).

End of the high speed needle is slotted to accommodate screw driver bit.

Start and operate motor at "fast" speed until normal temperature is attained.



OPERATING INSTRUCTIONS

Set high speed (needle) adjusting knob to center position—arrow down, and hold in this position.

Insert screw driver through port in side cover to engage high speed needle (Fig. 18).

Turn high speed needle to left or right as required to obtain maximum speed or best running position. (Left, to enrich mixture—right, to lean out).

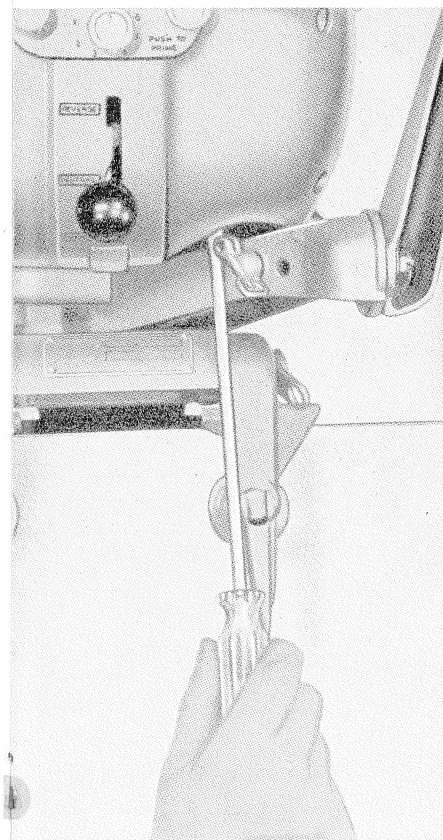


Figure 17

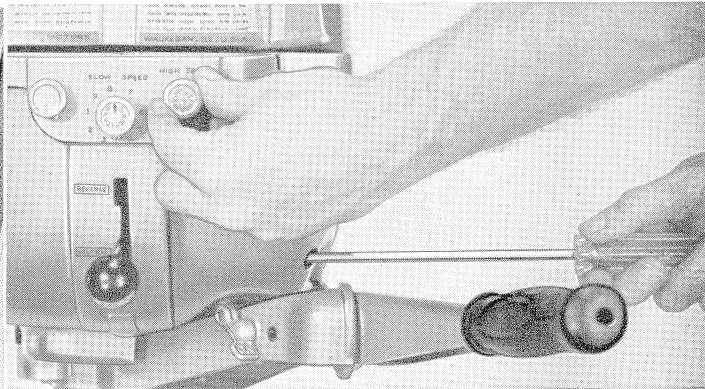


Figure 18

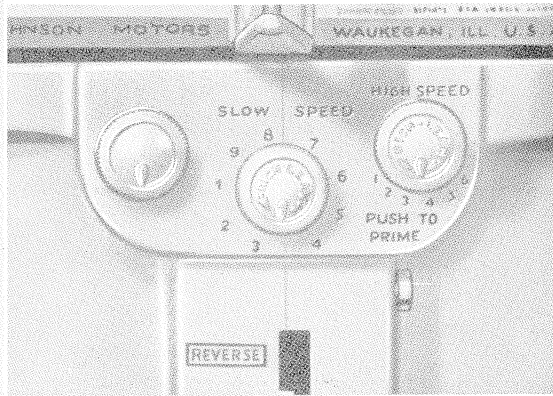


Figure 19



While still holding high speed (needle) adjusting knob in center position, tighten screw in bell crank to secure (Fig. 17).

slow speed adjustment

16 Move control (speed) lever to "slow" range position. While operating within slow speed range, turn slow speed needle knob to right or left as required to obtain satisfactory slow speed performance (Fig. 19). Move control lever farther to left to further retard motor speed. Reset slow speed needle as and if required to obtain smooth operation. (Note: Turning needle to left enriches the fuel mixture—that is, increases proportion of fuel to air. Turning the needle to right reduces proportion of fuel to air to result in lean mixture. An excessively rich mixture is indicated by "rough" running of the motor. "Spitting or coughing" in the carburetor is indicative of a lean mixture.

The high speed needle may require further attention (adjustment) on attaining final adjustment of the slow speed needle. Proceed as above in this event.

cooling

Water for cooling purposes is provided by action of the Vari-Volume pump, which functions as a displacement pump at slow motor speeds and as a centrifugal pump during operation in the higher speed range (Fig. 20).

Note twin water inlets in the gearcase. During FORWARD operation of the motor, water is picked up by the cavity in the gearcase immediately back of the propeller and forced through the cooling system, later to be discharged at the outlet in the exhaust tube provided for this purpose. Water enters the cooling system



through the small hole above the anti-cavitation plate when operating in REVERSE (Fig. 21).

break-in of new motor

Do not operate this motor at continuous full power for the first hour of operation. After approximately 15 minutes of part throttle operation, it is permissible to run at full power for a few seconds followed by a minute or two of part throttle operation. This may be repeated frequently and the period of full power gradually increased until a total of one hour operation has elapsed. After one hour, the motor may be run at full power.

lubrication of gearcase

17

type of gear lubricant

The gearcase employs the use of a different lubricant than that formerly used in Johnson motors. Mobilube GX 90 is recom-

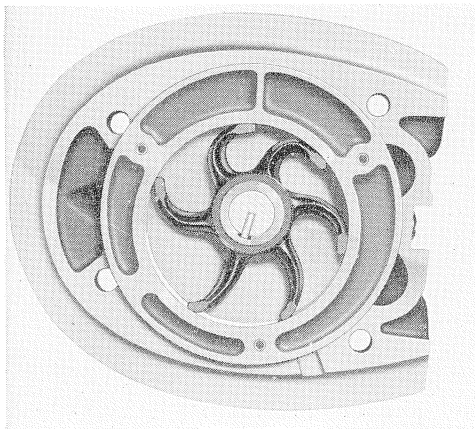


Figure 20

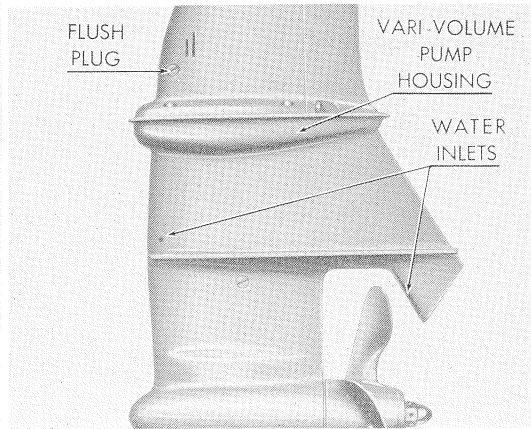


Figure 21



mended for best operation. In the event this is not obtainable, use any good grade of S.A.E. 90 gear oil *suitable* for *automotive hypoid gears*. In case of an emergency where neither is available, it is permissible to use an S.A.E. 40 oil, but only until such time as the proper lubricant can be obtained.

filling of gearcase

Where a complete change of lubricant is required, the fill and drain plugs should both be removed. Drain out all of the oil, water or residue; replace the drain plug, then fill the gearcase through the vent plug with a pump type oil-can as shown (Fig. 22). Fill to level of the vent and replace screw. Capacity 6 fluid ounces ($\frac{3}{8}$ pt.).

18

When checking for water in the gearcase, it is necessary to, first; remove the vent screw, second; loosen the drain screw partly to allow enough of the lubricant to run out to determine whether or not water is present. If there is no water, the drain screw may be retightened without an excessive loss of lubricant. The gearcase should then be filled to the vent screw level and the vent screw replaced. When refilling with pressure gun, fill from bottom—oil drain hole. Check condition of gasket on both screws to avoid possibility of leaks. Replace, if necessary.

Recommended Spark Plug—Champion J6-J (formerly known as Champion J-10 Commercial).

causes of plug failure

A certain amount of spark plug replacement may be necessary, depending upon the quality of fuel and oil used in fuel mixture and the amount of carbon deposit in the combustion chamber. If spark plug replacements become excessive, consult Johnson Service Station with respect to removing carbon from the pistons and



the cylinder head. Seek his advice, based on experience, as to the best grade of oil and gasoline available in the locality.

spark plug replacement procedure

Remove the spark plug cover (Fig. 23). Do not lose the screws.

Remove the spark plug terminal nuts. (It may be necessary to use pliers.)

Remove the spark plug by using the socket wrench provided in the tool kit.

Replace with a new spark plug, following same procedure outlined above in reverse.

19

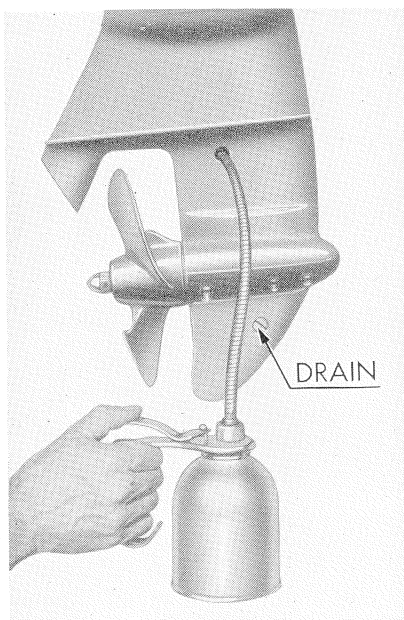


Figure 22

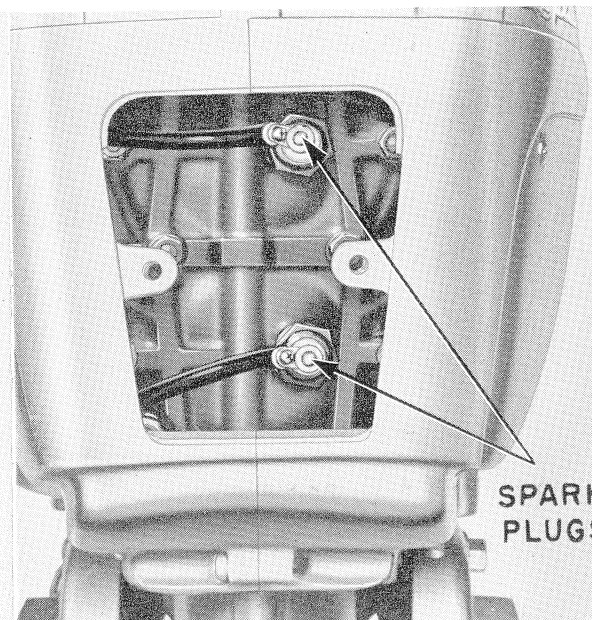


Figure 23



rubber floated propeller

A rubber cushion has been installed between the propeller hub and propeller for purpose of absorbing "shock" in event the propeller blades strike an underwater obstruction during operation of the boat (Fig. 24). Shearing of propeller drive pins and possibility of otherwise damaging the motor are thus considerably minimized.

The rubber cushion performs an additional function in case of the Model QD in that it acts to reduce impact load on the reversing mechanism.

Under no consideration substitute propellers not provided with the rubber shock absorber, to avoid causing rapid wear of reverse mechanism.

20

propeller drive pin replacement

In event the propeller strikes an underwater obstacle while in

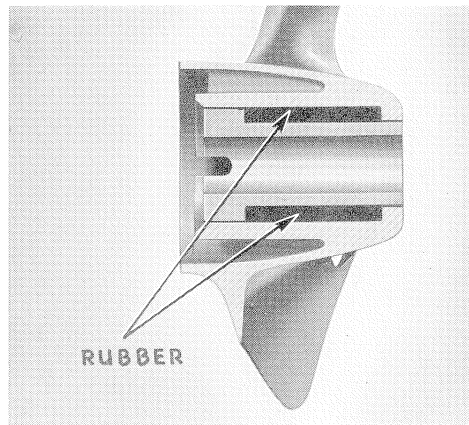


Figure 24

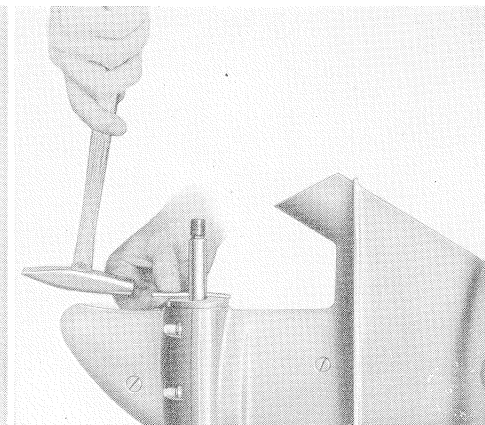


Figure 25



operation, the drive pin in the hub of the propeller may shear, allowing the motor to run free.

removal of broken pin

Remove cotter pin, nut and propeller. Remove the broken drive pin in the shaft by driving it out with a new pin or punch (Fig. 25).

replacement with new drive pin

The new drive pin should be placed in the hole so that approximately equal lengths project on each side of the shaft. The center of the pin is provided with a raised portion to prevent the pin from being lost while installing the propeller. It may be necessary to tap the drive pin into place. The propeller may then be placed on the shaft and rotated until the slot in the propeller hub engages the pin.

21

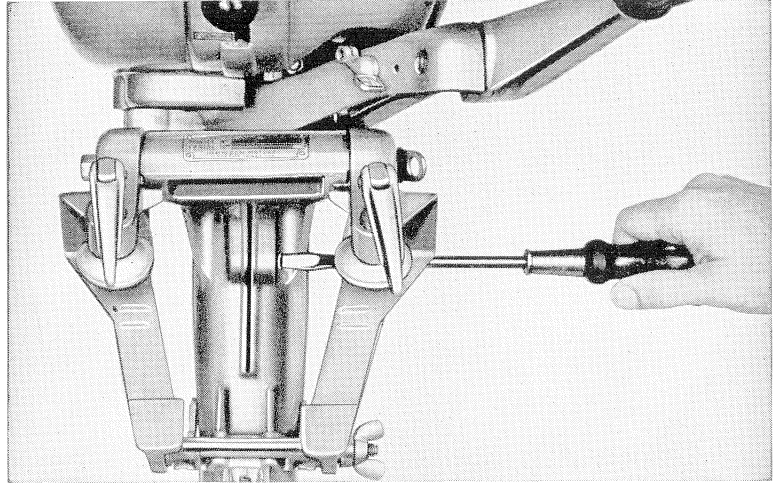
tightening of propeller nut

The propeller nut should then be placed on the propeller shaft until it engages the hub of the propeller. The nut should be tightened but slightly, as excessive pressure on the nut will cause partial shearing of the pin. The nut should be tight enough to prevent existence of any play between the pin and the propeller hub. In event the cotter pin does not line up with the hole in the shaft, the nut may be tightened sufficiently to permit alignment in this respect.

steering friction adjustment

Steering friction may be adjusted to individual requirements by simply loosening or tightening the screw in the swivel bracket provided for this purpose (Fig. 26). Tilt motor from the thrust socket to gain accessibility to the screw.





22

Figure 26

cleaning of gasoline filter

A gasoline filter is located on the port (right facing the motor) side of the power head, under the side cover. The filter is made accessible for inspection and cleaning by removal of the port side cover.

removal of side cover

To remove the side cover, disconnect fuel connector, remove the knob on the high speed needle valve (Fig. 16). Remove the spark plug cover and the five screws holding the two side covers together (Fig. 27). Remove the two screws below the polished strip which hold the side cover to the rubber mounting. The side cover may then be easily removed.

cleaning of filter

First inspect the filter to determine necessity of cleaning by



observing amount of foreign matter accumulated in the glass bowl. To remove the glass bowl and filter element for cleaning purposes, loosen the small wing screw below the bowl to free the assembly (Fig. 28). Care should be taken to avoid losing the gasket. The filter element may then be removed by loosening the wing screw on the bottom. Wash filter element in container of clean gasoline.

assembling of filter

The filter should be assembled in reverse order of that described above. Care should be taken that the gasket is replaced in the same relative position it had prior to disassembly.

lubrication of magneto oiler felt

The magneto is provided with a lubricating felt riding against the breaker cam to minimize wear on the breaker point push rods. To function properly, the felt requires an application of light machine



Figure 27

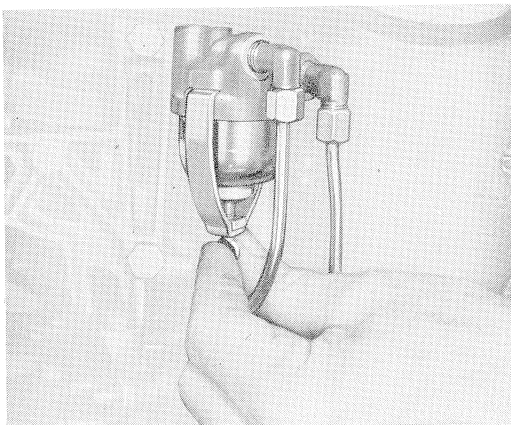


Figure 28



oil at least once a year—five to six drops will do. See your Johnson service station.

breaker point cleaning and adjustment

From time to time it may be necessary to clean and adjust the breaker points. Storing the motor in a damp place, or in a closed space where the humidity is relatively high, may create a condition affecting performance of the breaker points to cause faulty ignition.

24 disassembly and preparation for access to breaker points

Remove side covers and starter housing. Turn flywheel to position where port comes to rest above the points, (two sets of breaker points are employed).

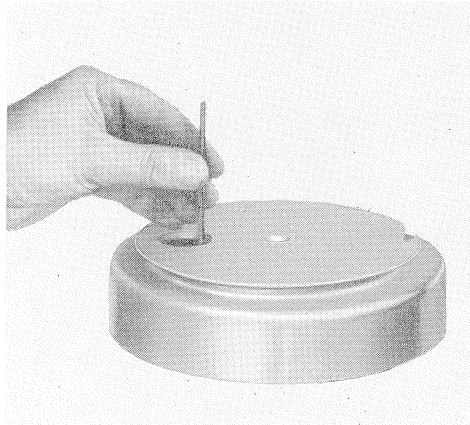


Figure 29

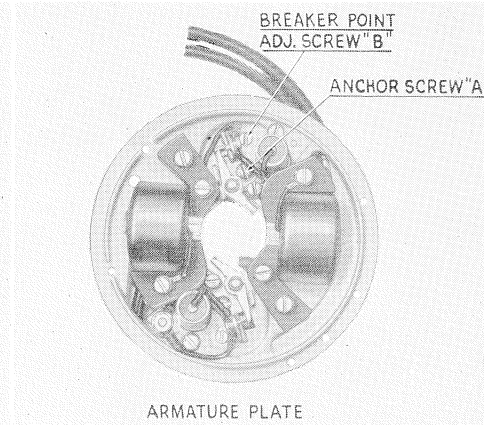


Figure 30



cleaning operation

Carefully spread points with blunt instrument (small screw driver), insert point dresser. Release points, work point dresser gently up and down to clean point surfaces (Fig 29). On completion of cleaning operation, insert strip of paper and in like manner work up and down to remove possible traces of dressing material left on point surfaces.

adjusting operation

Correct breaker point gap setting is .020" full open. To adjust, loosen breaker point assembly anchor screw "A" (Fig. 30) slightly—just enough to permit shifting of the assembly. Ultimate adjustment is accomplished by turning adjusting screw "B" (eccentric) right or left as required to obtain recommended gap setting—turn left to increase gap, right to reduce. Check with .020" feeler strip. Tighten screw "A" to secure position of the assembly. Repeat procedure for adjusting other point assembly.

25

assembling

Reassemble in reverse order of that described above.

care of the motor

The service obtained from this motor is dependent largely upon the care it is given. The following suggestions will assist in its proper maintenance.



Remove sediment bowl from filter periodically to free element and bowl of foreign substance which might have accumulated.

Inspect spark plugs occasionally. Clean and, if necessary, adjust gap. (Correct setting of gap, .030".) Wipe off insulator or porcelain of plug and ignition leads with a dry cloth to remove residue.

Check breaker points as instructed.

Be sure flywheel nut is secure.

Draw up on all nuts and screws at least once each season.

Remove drain and vent plugs from gearcase at frequent intervals to drain off water. Refill with Mobilube GX (90) as previously instructed.

Wipe off motor regularly with a damp cloth. A clean motor is readily accessible for inspection and less apt to foul.

26

Remove propeller periodically to inspect drive pin. Observe condition of propeller blades.

Do not cover the motor with a canvas hood or other device unless proper arrangements have been made for ample ventilation. The motor is well protected against weather under normal circumstances.

IMPORTANT: Prior to storing this motor over the winter months, operate it for several minutes on an excessively rich fuel mixture (carburetor setting) to permit coating of cylinder walls and bearing surfaces with oil, thus guarding against effects of condensation (rusting) during extended periods of idleness. See your Johnson Dealer who may provide storage facilities.

Always store motor in an upright position. And in dry atmosphere—avoid dampness.

care of the motor when operated in salt water

Certain conditions, not ordinarily encountered in fresh water, appear during operation in salt water as result of corrosion—apply-



ing particularly to the exposed motor parts. Following suggestions will assist in reducing corrosive effects to a minimum.

Remove the motor from the boat after salt water operation. Flush cooling system by operating several minutes in a tank or barrel of fresh water, or by use of flushing device available through your dealer.

If the motor cannot be conveniently removed from the boat, tilt the gearcase out of the water. Rinse exposed parts off with fresh water and wipe with oily cloth.

Under no circumstances permit the gearcase to remain submerged when the motor is not in use.

Remove motor side covers at regular intervals for inspection of under cover parts. In event corrosion has taken place, carefully remove from affected parts. Spread thin film of oil over the area to guard against similar recurrence. Wipe exposed parts with oily cloth, including inside surfaces of side cover.

27

The spark plug porcelains should be wiped with an oily cloth (castor oil, if available) at the time of their installation and periodically thereafter. Purpose of this function is to reduce to a minimum formation of salt water residue on the porcelains, thus avoiding possibility of short circuiting to interfere with performance of the motor.

if the motor is dropped overboard

Possibility of this occurrence can be eliminated entirely by exercising a few simple precautions. Make certain the stern bracket clamp screws have been properly tightened to secure position of



the motor on the boat. Check screws periodically during operation of the motor to guard against their having worked loose. Attach safety chain or rope to eyelet installed on the swivel bracket bolt for this purpose, anchoring opposite end at some convenient position on the stern of the boat.

However, if the motor unfortunately goes overboard, recover it immediately, if possible.

Remove carburetor bowl, magneto and spark plugs. Remove traces of remaining water.

Work as much water as possible out of the cylinders and crankcase by turning the motor over slowly in upright and inverted positions.

28 Pour small amount of oil into each cylinder.

Blow off armature plate with air pressure, if available; wipe dry with cloth. Set in warm, dry place. Allow ample time for thorough drying—make certain no water remains about the coil.

Install armature plate and flywheel. Ground spark plug leads to motor—this is important. Crank motor rapidly with starter cord to blow water out of cylinders and crankcase.

Replace all parts previously removed.

Start motor as instructed and allow to run until reasonably sure no water remains.

CAUTION: Do not, under any circumstances, attempt to start the motor until the armature plate has been thoroughly dried. Remaining drops of water are apt to set up a short circuit which may result in extensive repairs.

If the motor cannot be started, it should be disassembled at once to remove all traces of water clinging to the inside walls and motor parts. Each part should be dried and coated liberally with oil to



prevent rusting. This is IMPORTANT—the motor should be attended to immediately. Consult your local Johnson Dealer or Service Station.

register your motor

Your motor is known to the factory only by its Model and Serial Number, both of which are stamped on the name plate attached to the swivel bracket as shown here (Fig. 31).

For assistance in case of theft, register the model and serial number of your motor with the factory—accomplished by filling in and returning the registration card (enclosed in the tool kit) to the factory.

29

Always provide model and serial number of the motor when ordering parts or otherwise seeking information regarding it.

insurance

Insurance on your outboard motor and/or boat is available at nominal cost through the Outboard Boating Club of America. This

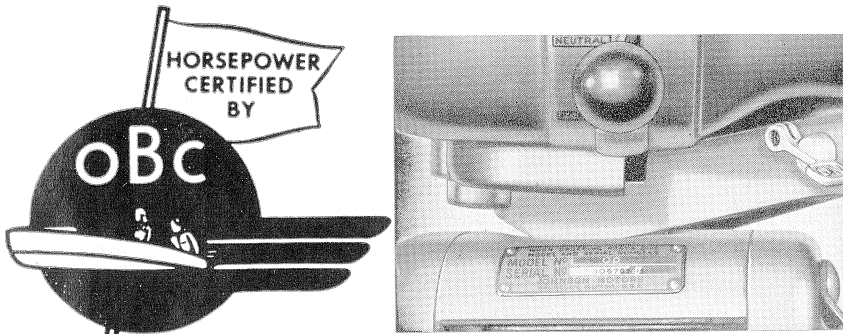


Figure 31



insurance includes protection against loss by fire, theft, etc. Write direct to Outboard Boating Club of America, 309 North Michigan Avenue, Chicago 1, Illinois, for further details.

johnson service

It has always been the belief of Johnson Motors that a sale does not complete the transaction between the manufacturer and the buyer. It establishes, rather, a new obligation — an obligation whereby Johnson Motors agrees to assist the buyer in obtaining utmost service from a Johnson Outboard Motor.

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With this policy ever uppermost in our minds, we have built up an organization that consists of a nation-wide network of Johnson Service Stations to give prompt and efficient service to owners of Johnson Outboard Motors.

The first step in this structure is the local Johnson Dealer, who is supplied with first-aid parts, enabling him to make emergency and minor repairs. Second, the Authorized Service Station, which carries a stock of parts and equipment necessary to properly service Johnson Outboard Motors. Third is the District Service Station, with a complete stock of parts for all models, tool equipment and factory trained mechanics capable of making extensive repairs.

It has, therefore, been our endeavor to place a Service Station within easy reach of every Johnson Outboard Motor owner. See Dealer Service Station list.

Always consider the Mile Master tank as part of the motor assembly—include it with the motor whenever requiring service.



warranty

We warrant each new outboard motor of our manufacture to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at the factory any part or parts thereof which shall, within three (3) months after delivery of such motor to original purchaser, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties and representations expressed or implied and of all other liabilities in connection with the sale or use of any motors.

This warranty shall not apply to any motor which shall have been repaired or altered outside the factory in any way so as to affect its stability, nor which has been subject to misuse, negligence or accident, or operated for racing purposes.

We make no warranty in respect to trade accessories not of our manufacture; inasmuch as they are usually warranted separately by their respective manufacturers.

Because of the unusual strains and accidents to which such products may be subjected, we make no warranty of either material or workmanship in racing outboard motors or any of our products when used for racing.

Claims must be entered on motors or motor parts returned to the factory for inspection, repair or replacement. Request form No. SE-16 from local Johnson Dealer or Service Station. **This form should be filled in, signed by the motor owner and dealer or service station representatives and mailed to the factory with returned material, TRANSPORTATION CHARGES PREPAID.**



your boat equipment

If you use your outboard motor on navigable waterways of the United States you are subject to the Federal Motor Boat Law which became effective April 25th, 1940.

NOTE: Navigable waters under Federal jurisdiction include the ocean and Gulf coasts, bays and rivers tributary to them, the Great Lakes and connecting waterways, any body of water which is customarily used for interstate navigation, or other specifically designated locations. If there is any doubt concerning the status of your locality, you can get a ruling from the Bureau of Marine Inspection and Navigation, Department of Commerce, Washington, D. C.

32

Under the law you are required to carry the following equipment on board your boat at all times;

1. Life preservers sufficient to sustain afloat every person on board. These may be either life vests or approved floating cushions.
2. An efficient whistle or horn. (Only if boat is over 16 ft. long.)
3. A fire extinguisher of at least one pint capacity capable of putting out gasoline fires. (If boat is used for "hire" only.)
4. To be exhibited from sunset to sunrise—
 - (a) A bright white light aft to show all around the horizon.
 - (b) A combined lantern to show green to starboard (right) and red to port (left) carried in the fore part of the boat.Federal law also requires the numbering of all motor driven boats operated on navigable waters under Federal jurisdiction. However, numbering is not required on rowboats, canoes or sailboats not exceeding sixteen feet in length which are equipped with outboard motors, but which are designed for and used primarily with other means of propulsion.

Numbers are assigned upon application to the Collector of Customs for your Customs District.





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